



# THE Agricultural Situation

SEPTEMBER 1951

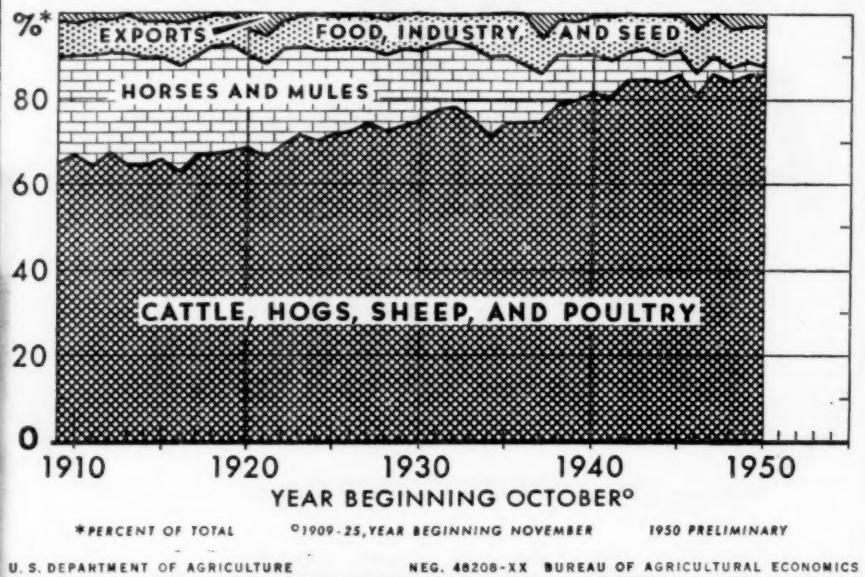
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## TRENDS IN CORN UTILIZATION



## Other Ways To Get More Corn and Livestock Food Production

### BIG INCREASES FROM HORSE-TRACTOR SHIFT ABOUT OVER

**I**N THE LAST three decades tractors and trucks have replaced horses and mules as the major source of power in agriculture. This gradual shift has released about 20 percent of our production of corn for use in producing milk, meat, eggs, and other food products. In 1910-19, more than 600 million bushels of corn were fed annually to horses and mules. In recent years, this figure has dropped to around 100 million bushels.

#### New Emphasis From Now On

In 1910-19, the total tonnage of all feed grains and other concentrates fed to horses and mules was around 25 million tons per year. Now it is less than 5 million tons. This has meant diversion of the equivalent of over 700 million bushels of corn from production

of farm power to production of livestock food products.

But the shift from animal power has about run its course. Any further large increase in livestock food products to take care of our expanding population must come largely from greater production of corn and other feed crops, and from increased efficiency in livestock production.

#### Fertilizer, Improved Practices

As the total acreage that can be put into feed crops is limited, the answer to the problem of larger production will be found in greater yields per acre. This, in turn, will depend to a considerable extent upon improved practices in producing corn, including the increased use of commercial fertilizers

and wider use of hybrid seed in some areas.

Total consumption of corn trended slightly downward between the two world wars. Lessened demand for corn during the 1930's accounted for some of this downward trend, but the short corn crops in that period, which forced liquidation of livestock, also had a part in it. During World War II, the quantity of corn used rose sharply, and for the last 10 years, has averaged a little more than 3 billion bushels annually.

### More Corn for Meat Animals

As a percentage of total corn disappearance, the quantity consumed by all livestock has held fairly steady. In most of the last 40 years, livestock feeding accounted for 88 to 92 percent of the corn utilized. In the last 10 years, livestock (including horses and mules) consumed more than 2.7 billion bushels of corn annually, one-seventh more than during 1910-19. But the total quantity of corn consumed by livestock other than horses and mules has increased since that period by 50 percent. This reflects the increasing numbers of cattle, hogs and poultry now taken care of.

### Exports and Other Uses

Of the nonfeed uses of corn, exports have varied most, ranging from less than 1 percent of the total in many years of the last 40 to as much as 4 or 5 percent in a few years. In each year from 1895 to 1900, exports totaled well over 100 million bushels. Since 1900,

they have exceeded 100 million bushels in only 7 years. Five of these 7 years occurred following the war periods; 2 after World War I, and 3 after World War II.

Owing to changes in our eating habits, less and less corn has been going into corn meal, grits, and other dry-process uses. Dry-processing of corn for food is now only about half as large as it was at the beginning of the century.

But the increased use of corn in producing starch, sugar, sirup, and other wet-process products has more than made up for the decrease in corn meal and related products. Use for wet-process purposes had more than doubled since 1909. In recent years, more than 100 million bushels of corn have been so used annually.

### Some Used for Alcohol

The quantity of corn used to produce alcohol and distilled spirits now ranges from around 30 to 50 million bushels annually. This is somewhat larger than in the pre-prohibition era of 1900-18. Use of corn for industrial alcohol was comparatively small in the post war years prior to the 1950-51 season. Most of the distilling of corn was for beverage alcohol. During 1950-51 production of industrial alcohol may make up more than a fourth of the total 50 million bushels expected to be processed by the industry.

Esther M. Colvin  
Malcolm Clough  
*Bureau of Agricultural Economics*

## A Look at Feed Prospects

**P**ROSPECTS FOR FEED crops point to another year of large supplies of feed grains and other feeds. But we are in a period of livestock expansion. This year's large supplies of feed will be needed, and the indications are that still larger feed crops will be in order next year.

Weather has been generally favorable for feed crops over most of the country, although floods have destroyed many acres of corn in the

Midwest, and the hot, dry weather has left its damage in the Southwest.

### Corn Crop Above Last Year

The 1951 corn crop was estimated in August at about 3.2 billion bushels, 2 percent larger than the 1950 crop, and 8 percent above the 1940-49 average. In the Corn Belt, where farmers increased corn acreage 6 percent over 1950, production also is up about 6 percent. In the South, on

the other hand, where corn acreage was reduced to permit an expansion of cotton and some other crops, production is estimated to be about 9 percent smaller.

For the entire country, smaller crops of other feed grains are in prospect, oats by 5 percent and barley by 15 percent, reflecting smaller acreages of these grains. The sorghum grain crop, estimated in August at 158 million bushels, is about one-third smaller than the record crop last year.

### Totals and Carry-Over

Total 1951 production of the four feed grains, estimated in August at 123 million tons, is 2 or 3 percent smaller than in 1949 and 1950, but larger than in any year prior to 1946. The carry-over of feed grains into the 1951-52 marketing year probably will be a little below the record carry-over of 31 million tons in 1950.

The supply of byproduct feeds available in the 1951-52 feeding season is expected to be at least as large as the big supplies of the past 2 or 3 years. The total production of oilseed cake and meal probably will be larger than in 1950-51, principally as a result of a much larger production of cottonseed cake and meal. In view of the large supply of other feed concentrates, wheat feeding probably will continue near last season's comparatively low rate.

### Concentrate Supply Large

Based on the above prospects, the supply of feed concentrates, including the grains and byproduct feeds, will be around 179 million tons, or about 2 percent smaller than in the past 2 years. This would be the third successive year in which feed concentrate supplies have totaled around 180 million tons. The record supply prior to 1949 was 172 million tons in 1942. The prewar average was 136 million tons.

### Record Hay Supplies

The 1951 hay production was estimated in August at 113 million tons,

the largest on record. Including the May 1 carry-over of nearly 16 million tons, this would give us a record supply of 129 million tons, which would provide ample hay for the livestock on farms.

### Increasing Needs for Feed

A strong demand for feed also is in prospect. The expansion of livestock production, which has been in progress since 1948, is expected to continue into 1951-52. Increases are in prospect for beef cattle, sheep, hogs, and poultry, with little change for dairy cattle. Livestock product prices are currently somewhat higher than a year ago. Feed utilization in 1951-52 will probably be the largest since the World War II peak. While feed supplies appear adequate to permit further expansion in production, such expansion probably will make it necessary to draw on our reserve feed grain stocks and to further reduce carry-over stocks by the end of the 1951-52 season.

### Feed-Grain Prices Higher

Prices of feed grains in recent months have been about 10 percent higher than a year earlier, and are generally above the 1951 price supports. Prices of oats and barley remained above the 1951 supports in July and August, while sorghum grain prices average a little below. Corn prices, which are seasonally high during the summer months, also have been above the preliminary price support announced for the 1951 crop. A strong demand is in prospect for feed in the 1951-52 marketing year, and price supports are higher than in 1950. These factors may result in a little higher level of feed grain prices in 1951-52 than in the 1950-51 marketing year. Much will depend, of course, on the final outcome of this year's crops. More information on feed prospects will be available after the Annual Outlook Conference in November.

Malcolm Clough  
Bureau of Agricultural Economics

# Food Grains This Year and Next

**S**UPPLIES of food grains available in the 1951-52 marketing year and expected in 1952-53 are adequate to meet all anticipated requirements; and, in the case of wheat, to increase reserves by July 1, 1953. This is the outlook based on late summer reports. It assumes average growing conditions next year and that farmers will plant in line with the suggested goals.

## Reserves Lowered

Total United States wheat supplies for the marketing year beginning July 1, 1951, are now estimated at 1,433 million bushels. This is made up of this year's crop of 998 million bushels (indicated as of August 1), and probable imports of feeding-quality wheat of about 40 million bushels, added to the carry-over from last year of 395 million bushels. Supplies now indicated have been exceeded in only 6 years.

Domestic disappearance in the 1951-52 marketing season may total about 748 million bushels, which would leave about 685 million for exports and carry-over. If exports total about the same as the 366 million bushels in 1950-51, about 320 million would remain for carry-over July 1, 1952. Such carry-over would about equal the 1941-50 average but would be below the carry-in on July 1, this year, by about 75 million bushels.

## Goal Would Restore Reserves

Next year, if average wheat yields are obtained, the goal acreage of 78.9 million acres would produce a crop of about 1,165 million bushels, 167 million above this year's estimated production. With a carry-over of old wheat on July 1, 1952, estimated at 320 million bushels, supplies of domestic wheat for the 1952-53 season would total 1,485 million bushels. Domestic disappearance in the 1952-53 marketing year is forecast at about 745 million bushels, which would leave about 740 million for exports and carry-over. Assuming exports at 325 million, compared with 366 million in 1950-51, the carry-over July 1, 1953, would be about 415 million

bushels, an increase of about 100 million bushels over the carry-over estimated for July 1, 1952.

On the basis of reports from local P. M. A. committees being received at the present time actual seedings may exceed the 78.9 million-acre goal, and may total near 80 million acres. This would step up next year's production by 15 or 20 million bushels above production on the goal's acreage.

## Adequate Supplies of Rye

Domestic supplies of rye for the 1951-52 marketing year are now estimated at 30.3 million bushels (compared with 32.5 million in 1950-51), consisting of the July 1 carry-over of 5.2 million bushels and a crop estimated as of August 1, of 25.1 million. While this is below the 1945-49 average of 28.5 million and the 62.4 million for the 10 years prior to 1945, these supplies are expected to be adequate to take care of domestic requirements, so that the carry-over at the end of the marketing year will not be reduced. Exports may be expected to be about offset by imports.

It is expected that the rye acreage for harvest in 1952 will be about the same as the 1.8 million acres for 1951. The rye acreage goal for 1952 is unchanged from the acreage harvested in 1951. This is because of the relatively low yields of rye and greater desirability of raising more productive crops, also because the goal production is about equal to domestic requirements so as to permit stocks to be maintained at about current levels.

## Record Rice Supplies

Old-crop stocks of rice in terms of rough on August 1, 1951, are reported at 4.1 million hundredweight. These include approximately 2 million hundred-weight scheduled for export but not yet lifted. With production of 43.2 million hundredweight—the largest of record—and imports estimated at about 0.3 million hundredweight, total supplies amount to 47.6 million hundredweight (heads, second heads,

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# *A Letter to Crop Reporters*

I HAVE JUST returned from a trip to Clemson, S. C., where we had three sessions during Farmers' Week for crop reporters.

It was real fun to have an opportunity to talk over this business of crop reports with some of the reporters who have been working with us for quite awhile. Our three sessions covered the history and development of crop-reporting service and some of the methods used in preparing crop reports. The discussion was lively and a number of the crop reporters came by and told me how much they enjoyed having an opportunity to discuss this work with each other and with us.

The whole Farmers' Week program was very complete with a lot of exhibits and many interesting meetings. In spite of all the other activities of the week, a goodly number of crop reporters showed up for the morning periods that were set aside especially for talks about crop reporting.

I would like to get the reaction of any of you who would care to write

in as to the possibility of having a period set aside at your local Farmers' Week for discussions of this sort. Our State Statisticians' offices as well as the Washington office would certainly cooperate to the fullest extent possible if enough of you indicate an interest in such a session.

Here in Washington the weather has been hot and the crop reports hotter. We had a big turn-out for both the cotton report on August 8 and the general report on the 10th. I don't believe I have ever seen more interest on the part of the news people and others in the results of your August 1 reports to us. It was quite a sight to see the reporters jump to their phones with their news and many others grab reports and run. If you are in Washington on crop-report day, drop in and see the show for yourself. We would be glad to see you anytime you are in.

S. R. Newell

Chairman, Crop Reporting Board  
Bureau of Agricultural Economics

## *Outlook Highlights*

... SEPTEMBER 1951

### **Prices Received by Farmers**

Average prices received by farmers in mid-August were down for the sixth consecutive month since reaching a peak in February. Prices-received index in August was about 7 percent below the February 1951 high. Average prices received for all crops combined in August were 3.2 percent below the previous month, cotton showing the largest decline; livestock and livestock products, except wool, registered seasonal gains. Compared with a year ago, average prices received by farmers at mid-August were up 9.4 percent.

### **Prices Paid by Farmers**

Prices paid by farmers in August (including interest, taxes, and farm wage rates) continued at the July level but were nearly 10 percent higher than a year earlier.

### **Business Activity High**

Despite price declines in farm and wholesale markets in recent months economic activity in the United States remains high.

### **Employment Reaches Record High**

The total of 62.5 million United States civilians employed in July was an all-time record high . . . tops a year ago by 1.3 million; 2 years ago by 2.8 million. Recent gains are due to increased employment in nonagricultural industries. Numbers working on farms have been declining.

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# Hogs in the Meat Picture

## Big Corn Crops, Strong Demand for Meat, Main Price and Production Factors

**HOG PRODUCTION** has increased for five consecutive years. In the past year or more of rising consumer incomes, pork has been available in increasing quantities to fill the enlarged demand for meat. The output of other meats has declined in this period. Hog production is now at a level that can be held only if crops of feed grains continue large.

### Pig Crop This Year Near Record

The 1951 total pig crop of almost 106 million head now in prospect is the largest for a peacetime year and second only to the 1943 crop of 121.8 million head. The 1951 crop is made up of 63.8 million spring pigs already farrowed and an estimate for fall pigs based on farrowing intentions. Farmers planned on June 1 to have nearly 6.4 million sows farrow in the fall season of June through November—4 percent more than farrowed last fall. At an average size of litter—as adjusted for trend—the fall pig crop would be about 42 million head.

Livestock production is closely associated with feed production, and hog production is definitely related to corn production. The corn crops of 1948 to 1950 were large. Total livestock production, rather low at the beginning of that period, increased steadily and is now more nearly in line with the feed supply. In fact, the use of corn in the 1950-51 feeding year ending this October, is expected to be greater than the 1950 production; so that the carry-over of corn on October 1 this year will probably be reduced by about 125 million bushels. A small further reduction in the carry-over may take place in the next feeding year.

### Feeding Favorable

The most common measure of the profitability of feeding corn to hogs is the hog-corn price ratio, which is the number of bushels of corn equal in value to 100 pounds of live hog. During

the past 30 years the ratio, based on the United States average prices received by farmers, has averaged around 12. In the past several years, strong demand for pork and ample supplies of corn have held the annual hog-corn ratio about the long-time average.

Hog slaughter has increased about in line with the expansion in pig crops. Pork production has risen about as much, except for some variations due to changes in slaughter weights. This expansion was made during a time when total production of other red meats increased but little or even declined.

### More Pork Than Usual

In the first half of this year, 9 percent more pork than a year earlier was produced commercially, but the supply of each of the other meats was smaller. Pork made up 51 percent of commercial meat production, the highest percentage for the first half of the year in the last 6 years of record.

Pork production during the last half of 1951 will be 5 to 10 percent larger than in the same 6 months of 1950. The spring pig crop was 7 percent greater than last year and no appreciable change in slaughter weights is expected. Moreover, farrowings were earlier on the average, and most of the increased number of pigs will be marketed before the end of the year. Pork consumption per person in this period will be up and will continue to be a larger proportion of total meat consumption than usual.

### May Be More Next Year

If prospects for the corn crop continue as favorable as on August 1, when a 3.2 billion bushel corn crop was indicated, farmers are likely to carry out their June intentions for an increased number of sows to farrow fall pigs. This would mean a larger hog slaughter and pork supply than this year during at least the first half of 1952.

Prospects farther ahead are less clear for hogs than for other meat animals. Production of beef, for example, is almost certain to increase in years hence and to become an increasingly larger part of the total meat supply. Production of lamb and mutton will also climb gradually from its present low level.

### Hog Production May Ease

There are indications that hog production may soon level off. Farmers are not increasing the number of sows for farrowing as fast as they did in 1949 and 1950. More than a third of the increase in this year's spring pig crop resulted because litters were larger than last year, as only 4 percent more sows farrowed than in 1950. Moreover, the prospective fall pig crop of 42 million head is a gain of only 3 percent over last fall, a much smaller increase than the 9-percent gain registered a year earlier.

Although the hog-corn price ratio has been above the long-time average during this period of increasing hog production, it has been declining since 1949. The ratio averaged 12.4 in the first 8 months of 1951, still a little above average but less than the 13.8 in the same period in 1950.

On July 15 and August 15 the hog-corn price ratio was below that for the same dates last year. The price of corn was higher, and the price of hogs

was slightly lower. In all previous months of 1951 the price of hogs was higher than in the corresponding months of a year earlier.

### Future Prices and Prospects

Hog prices this summer have been determined largely by the price ceilings on pork. The seasonal decline in hog prices is now under way. Prospects are that the total seasonal decline may be as large as last fall, and that prices may average approximately the same as last fall.

Weak factors in the outlook for hog prices are a possible decline in prices of lard, due to a much larger 1951 production of fats and oils, and a likely increase in the supply of beef. The 1951 production of cottonseed was indicated on August 1 to be 70 percent larger than last year, and the soybean crop to be within 2 percent of last year's record. Production of lard itself will be up this coming year along with hog slaughter.

The other side of the outlook picture is a continued strong demand for meat, with consumer incomes supported by defense activities. With adequate supplies of corn, the present level of hog production could be maintained or even expanded at a rate equal to the growth in population and still yield returns to producers about in line with the average of recent years.

Earl E. Miller

Bureau of Agricultural Economics

## Farm Equipment Needs

THE NATION'S FARMERS will need about 15 percent more farm equipment in 1951 than they did in 1949. This is based on a recent survey made by the Production and Marketing Administration in about 3,000 counties. High on the list of needs are heavy wheel tractors, manure spreaders, tractor cultivators, field crop sprayers and dusters, beet harvester, field and forage harvesters, cotton pickers and strippers, side delivery rakes, pick-up wire and twine balers, and irrigation equipment.

## Food Grains, This Year And Next

(Continued from page 5)

screenings, and brewers' rice). This is an all-time record. Total domestic disappearance is expected to exceed only slightly the 25 million hundred-weight in 1950-51. This would leave a large quantity for export in 1951-52 and carry-over August 1, 1952. It is expected that exports, including military shipments will continue large, which would keep the carry-over from becoming unduly large.

The rice acreage for 1952 is expected to continue high and to result in another very large crop.

Robert E. Post

Bureau of Agricultural Economics

# Competition Between Regions In Producing Chickens and Eggs

THE PHENOMENAL rise in total production of chickens and eggs, as a whole, has received more attention in recent years than has the difference in trends between regions and areas. Yet, striking regional variations in production have taken place, and competition between regions may become still more evident in the future.

## Increase More in Some Areas

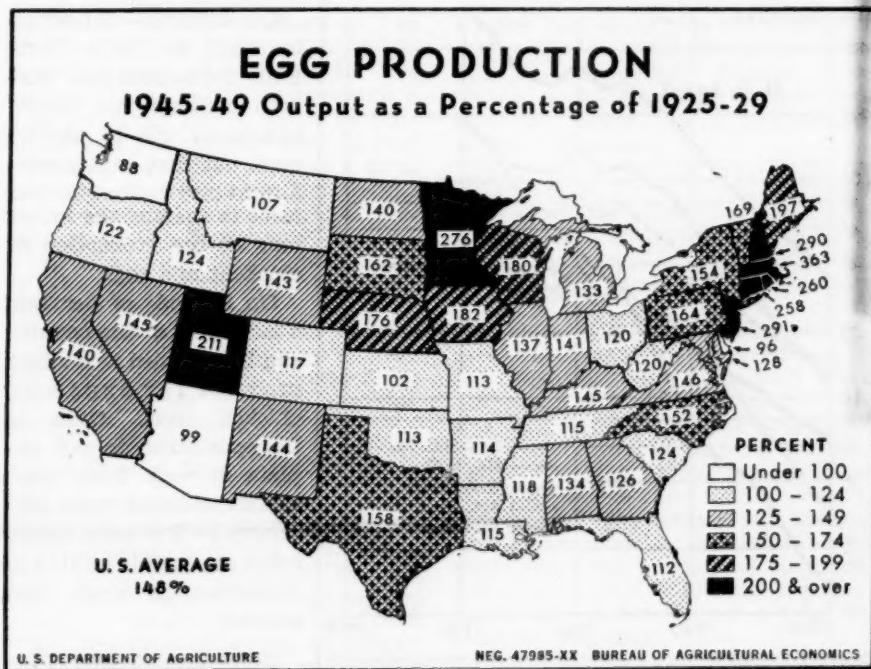
Our total production of eggs has increased 50 percent in the last 20 years. But changes by States ranged from small decreases in Washington and Arizona to increases of 100 to 200 percent in Minnesota, Utah, New Jersey, and the New England States.

Rapid expansion in commercial broiler production is chiefly responsible for a 50-percent increase in total chicken-meat production in the last 20

years. Although broiler production is widespread, the greater part is concentrated in a few specialized areas. Seven States—Delaware, Maryland, Virginia, Georgia, Arkansas, North Carolina, and Texas—have accounted for 60 percent of the broilers produced in recent years. Even within these States, broiler production is concentrated in certain areas and on specialized broiler farms. The patterns of expansion in these areas have followed very similar courses.

## "Know How" a Big Factor

Back of these shifting trends and changes on the production map are many complex local differences in prices, resources, alternative opportunities and other factors. Perhaps most striking are the improvements in poultry technology on the farm, which in most regions have caused farmers to



expand output of chickens and eggs relatively more than that of other livestock products, despite lower relative prices received for chickens and eggs. Learning to produce more efficiently has enabled farmers to produce and sell more chickens and eggs in competition with other livestock products, such as beef, lamb, and pork.

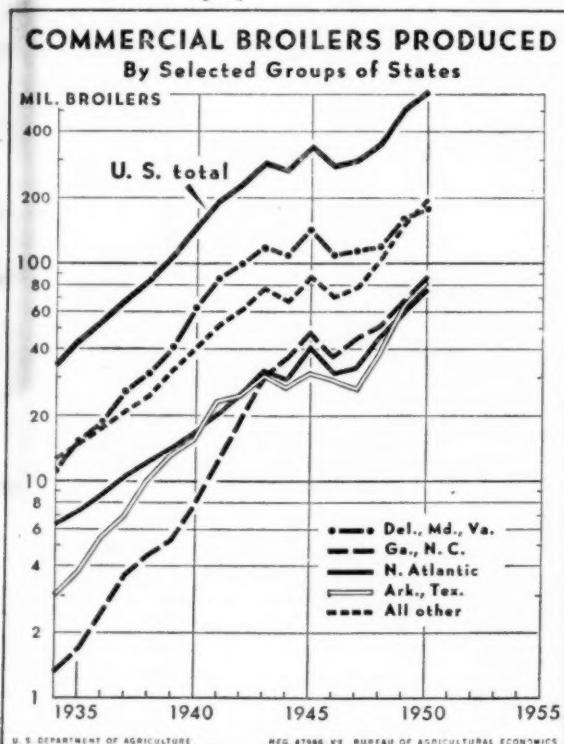
### More Specialized Farms

In the past, the production of chickens and eggs has been widely dispersed, with some tendency toward producing nearer the market than nearer the production resources. Technology works partly toward a continuation of this dispersal, but perhaps more toward concentration. Improvements in transportation, refrigeration, and the like, make it possible to maintain quality of perishable products even though produced far away. Commercial hatching, use of sexed chicks, use of commercial broilers, control of disease

and sanitation, and other changes, are strong influences toward specialization in favorable locations.

### Poultry Set-ups Vary

The geographic distribution of the production of chickens and eggs and its relation to sizes and types of farms is far more complex than a cursory reading of dot maps would suggest. The North Atlantic and Pacific regions are characterized by specialized poultry farms that have relatively large flocks. In the North Central States, middle-sized flocks account for most of the chicken and egg production, usually as a supplementary enterprise. In the South Atlantic and South Central States most of the eggs come from small flocks having less than 100 birds. Commercial broiler production is found to be relatively concentrated in a number of specialized areas in several regions.



### Conditions of Supply Most Important

Our analysis—reported in detail in USDA Tech. Bull. 1031—indicates that both demand and supply conditions will be significant, but that supply conditions may be the stronger force in shaping the future map of the production of chickens and eggs.

On the side of demand, a large part of the country can be regarded as a single market for eggs and chicken meat. Costs of transportation do not explain a very large part of interregional price differences. The price differences are mainly related to variations in grade and quality.

(Continued on page 13)

# Rate of Lay Key To Profits

## "NET" BEGINS AT ABOUT 150 EGGS PER LAYER

UNDER PRICE-COST conditions in recent years it probably takes an annual production of at least 150 eggs per layer in commercial flocks for the farmer to break even. Cost of feed and other direct expenses plus the overhead for housing, labor, and management just about balances with income at this level of production. Compared with other classes of livestock, this is a relatively high output. In the case of milk, a much lower production level relative to the general average marks the economic balance.

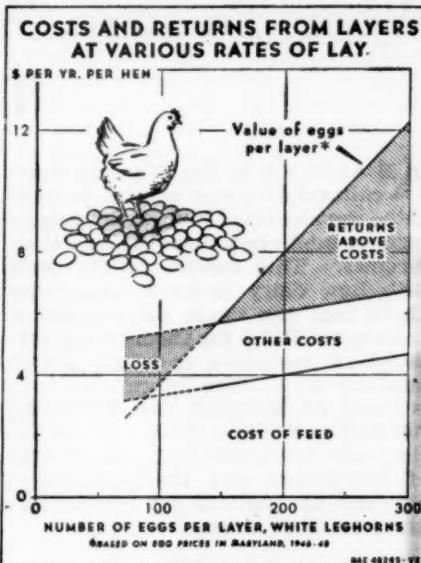
Why then does the poultryman, if he is to make ends meet, have to keep his rate-of-lay per hen at such a high average rate?

The chief reason is the large proportion of the total feed consumed by the hen that is used for maintenance. At the 150-egg level approximately 75 percent of the feed is needed for this purpose. Feed used for maintenance is quite constant; but it drops proportionately as the hen increases its feed to produce more eggs. We find it takes at least a hundred eggs just to pay for the feed for an average hen. Returns to poultry farmers are low until the average egg production exceeds 150 eggs per layer but increase rapidly after that point.

You might say that the net returns to the American egg producer in 1950 were represented by the margin of 17 eggs, the number by which the National average exceeded 150.

### High Rate of Lay, High Returns

High output per hen is thus essential to high net returns. The increase in total income is usually even larger than the increase in output; because with higher output, a larger proportion of eggs is produced during the part of the year when prices are seasonally high. What it amounts to is that above-normal producers extend their



laying period into the season when eggs are relatively scarce.

The chart shows the importance of high production per layer in obtaining large net returns. The prices used are Maryland monthly prices during the 3 years 1946-48. These are so close to recent prices that little or no interpolation is necessary. In many commercial flocks the amount of feed used may run higher. If so, net returns would be reduced.

The chart shows how the returns per layer go up as the rate of lay increases from about 150 to 300 eggs. Feed cost shows a comparatively small increase with the increased egg production; other costs, which include family labor, remain almost constant. In certain situations, where only family labor is used, the actual costs incurred may be only slightly higher than feed costs.

Because of high speed costs then, primarily due to the large amount of feed used for maintenance, it is essential to obtain a production per layer in excess of 150 eggs annually before net returns to commercial poultry farmers assume a significant level. High producing strains of chickens, high quality feed, and good management are necessary, of course, in reaching this goal.

Peter L. Hansen  
Bureau of Agricultural Economics

# When To Hire, When To Buy That Farm Machine

**A**N ARTICLE in the February *Agricultural Situation* pointed to some of the ways in which New England dairy farmers might be able to increase their incomes. This second article deals with how dairy farmers (and other kinds, too) can figure out whether it is more profitable for them to buy certain farm machines, or to hire custom machine work. The information here is based on Research and Marketing Act studies made by the Bureau of Agricultural Economics, U. S. Department of Agriculture and the Agricultural Experiment Stations of Connecticut and New Hampshire.

## When To Hire, When To Buy

On the farm, you don't always come out ahead by owning and using every machine you need. Although to own certain machines may be vital to your success as a farmer, you probably know of other cases where it's cheaper to hire the work done on a custom basis.

With some machines on some farms, the advantages of the one type of service over the other are crystal clear. Even so, it is a good thing to compare the costs of the two with some exactness. This is especially desirable in the great number of cases where exactness of figures can mean the difference between a decision to buy a new machine, or to hire the work done. Our research has developed some facts which can help you work out your own comparison of these costs.

## Put Money to Best Use

First of all, it will usually pay you to hire machine work done, if you can get it done satisfactorily for no more than your real costs would be if you used your own machine and labor. If the costs of the two methods are about equal, and if the hired machine service is good, it's generally better to hire the work done. Of course, if hiring the job done would result in idleness for your necessary farm workers, this would modify the picture somewhat. But on

a straight "break even" basis, there's no advantage in buying the machine. So why do it?

Furthermore, you may prefer to hire a job done even if it costs a little more than doing it with your own equipment. Owning a machine means that you have money tied up—money for which you may have many other uses. On the other hand, of course, is the fact that if you hire work done, the custom operator may not be able to do it at exactly the right time. These two points tend to offset each other but both should be considered in making your decision.

## Figure the Break-Even Point

To figure your own "break even" point for any machine is not too hard. To do this, first figure all the costs that you would have in owning and operating your own machine. Work out all costs on an hourly basis, your own as well as the rate charged by the custom operator.

Add up the direct costs per hour of operating your own machine—the costs of fuel, oil, grease, twine for a baler, spray material for a sprayer, etc. Then compute the annual fixed costs of owning the machine.

## Take an Example

To illustrate this procedure, let us suppose you have plowing to do. For this work your costs for fuel, oil, and grease, let us say, figures out at around 45 cents per hour. Then add the value of the labor you would use if you operated your own machine—say \$1 per hour. This gives a total of \$1.45 per hour as your costs for labor and machine operation if you do the work with your own machine.

Custom prices for plowing differ from area to area. But the custom rate is \$3.50 per hour in your neighborhood. This would be \$2.05 per hour more than your own direct operating costs and labor charge—an apparent saving of \$2.05 per hour by using your own ma-

chine. But don't stop there. You haven't figured all your costs.

### Fixed Cost Must Be Figured

Look now at the fixed costs of owning the particular machine. These are the yearly charges for depreciation, interest on your investment, housing for the machine, insurance, and taxes. It's best to work these out as exactly as possible. However, rule of thumb estimates would allow 10 to 15 percent of the purchase price of the machine to cover these costs each year. The lower percentage allowance would be for one of the slower and relatively simple machines.

For the particular plowing equipment under consideration, let us say

that you figure these costs amount to \$26 per year. At this point, you are ready to make a decision as to the wisdom of buying a machine or hiring the work done by others. You have only to ask yourself one question. Will you be able to use the machine for enough hours during the course of a year so that your apparent savings of \$2.05 per hour will actually cover the \$26 annual cost?

In the example above, you would have to have 12.7 hours of work for the machine to do each year, just in order to reach the "break even" point. That's the figure you get through dividing \$26 by \$2.05.

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## Regional Competition In Producing Poultry

(Continued from page 10)

### Best Use of Labor, a Key

In considering the supply factors that influence location, labor appears to be most controlling. Differences in prices for feed between regions are small and are partly offset by differences in prices of eggs and chickens. The growth of the broiler industry in widely separated areas, for example, follows a remarkably similar path, suggesting that differences in feed costs have not been very influential. To furnish a full explanation of why broiler production has arisen in particular places rather than in other areas in which similar conditions apparently prevail will require additional study. Some indications, however, are now apparent.

The availability of labor together with comparisons between its alternative uses appears to be one of the principal determinants of location. The poultry enterprise is flexible in terms of size, making it physically possible to use the free time of the farm operator and his family in a small sideline enterprise or to expand to a full-scale specialized commercial poultry farm. In either case—whether the enterprise be

large or small—the real comparison is in terms of alternative uses for labor.

"Do we have the time?" the farmer asks. "And if we have the time, can we earn more from chickens than from tobacco? Or cows? Or what have we? His land may not be good tobacco land. Pasture may be limited or too poor for cows; the farm not so well suited to other crops. Farmers in the area have acquired the chicken technology. They find they get returns from chickens; so they raise them."

The two areas that have had the most rapid rates of growth in recent years—southern New England and Minnesota—illustrate these two different lines of development.

The forces of technology as applied to poultry are by no means spent. If market outlets become available, further expansion of both eggs and chicken meat may take place. The geographic pattern that may evolve will depend in part on developments in alternative enterprises. If crop and livestock enterprises offer better returns, there will be less expansion in poultry, in the Midwest especially. On the other hand, programs to improve the quality of eggs produced in the Midwest and South will raise the average price received and improve their competitive position.

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# Prices of Farm Products

Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Aug. 15, 1950	July 15, 1951	Aug. 15, 1951	Effective parity price Aug. 15, 1951 <sup>2</sup>
	Base period price 1910-14 <sup>1</sup>	January 1935- December 1939				
<b>Basic commodities:</b>						
Cotton (pound)	cents	\$ 12.4	10.34	36.95	39.11	34.60
Wheat (bushel)	dollars	\$ .884	.837	1.97	2.05	2.05
Rice (cwt.)	do	1.97	1.65	4.70	5.40	5.56
Corn (bushel)	do	\$ 3.642	.691	1.44	1.63	1.65
Peanuts (pound)	cents	\$ 4.8	3.55	11.0	10.8	13.1
<b>Designated non-basic commodities:</b>						
Potatoes (bushel)	dollars	\$ 4.12	.717	1.22	1.18	\$ 1.80
Butterfat in cream (pound)	cents	27.2	29.1	60.3	68.8	68.5
Milk, wholesale (100 lb.) <sup>3</sup>	dollars	1.70	1.81	3.77	4.29	7.4.45
Wool (pound)	cents	20.1	23.8	60.4	86.5	77.1
<b>Other non-basic commodities:</b>						
Barley (bushel)	dollars	\$ 2.619	.533	1.12	1.17	\$ 1.52
Cottonseed (ton)	do	26.10	27.52	70.90	\$ 78.00	69.10
Flaxseed (bushel)	do	1.67	1.69	3.35	3.17	3.11
Oats (bushel)	do	\$ 3.390	.340	.706	.783	.759
Rye (bushel)	do	\$ 2.720	.554	1.25	1.55	1.46
Sorghum, grain (100 lb.)	do	\$ 1.21	1.17	1.88	2.09	2.09
Soybeans (bushel)	do	1.00	.954	2.42	2.86	2.71
Sweetpotatoes (bushel)	do	.908	.807	2.18	2.19	2.73
Beef cattle (100 lb.)	do	7.02	6.56	24.20	29.00	29.10
Chickens (pound)	cents	11.1	14.9	25.4	27.0	26.0
Eggs (dozen)	do	\$ 21.5	21.7	38.0	46.6	49.7
Hogs (100 lb.)	dollars	7.57	8.38	21.70	20.80	21.20
Lambs (100 lb.)	do	7.71	7.79	25.00	30.20	29.80
Veal calves (100 lb.)	do	7.84	7.80	27.40	32.50	32.60
Oranges, on tree (box)	do	\$ 2.29	1.11	.72	.91	1.68
Apples (bushel)	do	1.02	.90	2.34	1.93	1.94
Hay, baled (ton)	do	\$ 11.87	11.20	20.20	20.20	20.40

<sup>1</sup> Adjusted base period prices 1910-14, based on 120-month average January 1941-July 1950 unless otherwise noted.

<sup>2</sup> Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948 and 1949.

<sup>3</sup> 60-month average, August 1909-July 1914.

<sup>4</sup> 10-season average 1919-28.

<sup>5</sup> Transitional parity, 90 percent of parity price computed under formula in use prior to Jan. 1, 1950.

<sup>6</sup> Prices received by farmers are estimates for the month.

<sup>7</sup> Preliminary.

<sup>8</sup> Relatively insignificant quantities sold for crushing this month.

<sup>9</sup> 60-month average August 1909-July 1914.

## Outlook Highlights

(Continued from page 6)

### Wage-Salary Receipts Up

Wage and salary receipts have been higher in recent months than a year earlier. Expansion of employment for the military and increased earnings of factory workers in the durable goods industries largely accounted for a 25-billion-dollar rise in wage-salary receipts from mid-'50 to mid-'51.

### High Industrial Output—Some Items Decline

Total industrial output has continued high, despite declines in some

industries due largely to shortages of materials and a somewhat weaker demand. Vacation shutdowns caused some of the decline during the summer. Passenger-car output in July was down 25 percent from June while steel operations continued at full capacity.

### Larger Inventories—Mainly Durables

Inventory book values of manufacturing industries have been rising and most of the rise is from a greater physical volume of goods on hand. About two-thirds of the additions have been in the durable-goods industries.

(Continued on page 16)

# Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) <sup>1</sup>	Total income of industrial workers (1935-39=100) <sup>2</sup>	Average earnings of factory workers per worker (1910-1950=100) <sup>3</sup>	Wholesale prices of all commodities (1910-1950=100) <sup>4</sup>	Index numbers of prices paid by farmers (1910-14=100)		Index numbers of prices received by farmers (1910-14=100)				
					Commodities	Wage rates for hired farm labor <sup>4</sup>	Commodities, interest, taxes, and wage rates	Livestock and products			
								Dairy products	Poultry and eggs	Meat animals	All livestock
1910-14 average	58	50	100	100	100	100	100	100	100	100	100
1915-19 average	72	90	152	158	149	147	148	147	153	162	157
1920-24 average	75	122	221	160	159	181	168	159	163	121	140
1925-29 average	98	129	232	143	151	184	161	161	155	145	152
1930-34 average	74	78	179	107	117	121	124	105	94	83	91
1935-39 average	100	100	199	118	124	121	125	119	108	117	115
1940-44 average	192	236	315	139	148	211	152	169	145	166	162
1945 average	203	292	389	154	179	359	189	230	194	207	210
1946 average	170	277	382	177	197	387	207	267	197	248	241
1947 average	187	330	436	222	230	419	239	272	219	329	287
1948 average	192	356	472	241	250	442	259	300	235	361	314
1949 average	176	328	478	226	240	430	250	251	219	311	272
1950 average	200	369	516	236	246	432	255	247	181	340	278
1950											
August	209	392	526	243	248	—	258	240	191	369	292
September	211	396	528	247	252	—	260	248	196	372	298
October	216	405	540	247	253	428	261	261	201	358	296
November	215	406	542	251	255	—	263	267	209	357	299
December	218	416	556	256	257	—	265	272	249	360	311
1951											
January	221	416	556	263	262	450	272	286	203	391	323
February	221	419	556	268	267	—	276	285	205	425	340
March	222	427	563	269	272	—	280	280	217	428	343
April	223	427	565	268	273	479	283	273	215	428	340
May	223	426	563	267	272	—	283	270	221	418	335
June	222	431	569	265	272	—	282	269	217	422	335
July	213	—	563	262	271	475	282	272	222	414	332
August	—	—	—	271	475	—	282	277	231	416	336

Index numbers of prices received by farmers (1910-14=100)

Year and month	Crops								All crops and livestock	Parity ratio <sup>6</sup>
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops		
1910-14 average	100	100	100	100	100	100	100	100	100	100
1915-19 average	193	161	183	175	201	126	—	171	164	111
1920-24 average	147	125	189	197	155	157	7 152	162	150	89
1925-29 average	141	118	169	150	135	146	145	143	148	92
1930-34 average	70	76	117	77	78	98	104	84	88	71
1935-39 average	94	95	172	87	113	95	95	99	107	86
1940-44 average	123	119	241	138	170	150	164	145	154	101
1945 average	172	161	360	178	228	244	207	203	206	109
1946 average	201	196	376	237	260	250	182	227	234	113
1947 average	270	249	374	272	363	212	226	263	275	115
1948 average	250	250	380	270	351	174	214	252	285	110
1949 average	219	170	398	245	242	199	201	223	249	100
1950 average	224	187	402	280	276	200	185	232	256	100
1950										
August	224	193	399	311	293	200	164	239	267	103
September	221	194	428	336	303	217	126	243	272	105
October	219	188	426	327	300	207	138	238	268	103
November	224	192	428	346	351	194	188	250	276	105
December	233	202	436	339	366	202	211	258	286	108
1951										
January	240	214	442	347	374	192	324	275	300	110
February	254	222	440	351	379	204	333	283	313	113
March	245	221	437	359	386	202	265	276	311	111
April	247	222	438	363	385	209	225	275	309	109
May	244	223	438	357	380	194	239	271	305	108
June	240	217	438	353	358	200	189	263	301	107
July	236	213	438	329	317	175	204	252	294	104
August	234	215	430	291	294	207	181	244	292	104

<sup>1</sup> Federal Reserve Board: represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

<sup>2</sup> Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised January 1950. <sup>3</sup> Bureau of Labor Statistics.

<sup>4</sup> Farm wage rates simple averages of quarterly data, seasonally adjusted. <sup>5</sup> Revised.

<sup>6</sup> Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis. <sup>7</sup> 1924 only.

# *Outlook Highlights*

(Continued from page 14)

## **Strong Demand for Poultry, Eggs**

With consumer demand strong, farmers' prices of chickens and turkeys changed little during August, despite seasonally increasing supplies. Egg prices, now rising seasonally, continued well above low summertime level of last year.

## **Seasonally More Meat to Market**

Farmers' marketings of livestock are increasing seasonally. Hog marketings expected to reach a peak about early December, will continue above a year ago; for the fall period may total near the record reached in 1943. Cattle marketings may reach 1950 levels this fall but the total may be below a year earlier. Calf and lamb slaughter will remain below a year ago during all or most of the remainder of 1951.

## **More Vegetable Oils Next Year**

Output of food vegetable oils in the coming season may top the 1950-51 season by about one-tenth, August estimates indicate. Production figures include the oil content of soybeans and peanuts exported for crushing.

## **Dairy-Product Prices Steady**

The number of milk cows on U. S. farms has changed little for three years—a more stable condition than usual for the dairy industry. In the year ending at mid-1951, numbers in the Atlantic Coastal and South Central States gained a little; numbers in other regions dropped a little. The United States total was slightly below a year earlier. Prices of dairy products, retail and wholesale, have been steady in recent months. Prices received by farmers for milk have started to rise as is usual for the season.

## **More Fruits, Prices May Be Lower**

Farmers are harvesting a tenth more deciduous fruits than last year. Prices for apples and grapes this fall probably will average below a year earlier, but peaches and pears probably will be at least as high.

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## **Vegetables Generally Plentiful**

Supplies of fresh vegetables from nearby farms have been abundant recently in most markets and farmers' prices generally have been near seasonal low.

Output of processing crops is expected to be large enough to provide increased amounts for both the armed services and civilians and also permit stocks of canned vegetables to be built up.

## **Land Values Continue Up**

Farm land values in the United States as a whole are 5 percent above March and 17 percent above a year ago. Index for July was 202 percent of 1912-14 average. Nearly a third of the farms sold during the year ending last March were to nonfarm people.